AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below. The language being added is underlined ("__") and the language being deleted contains a strikethrough ("—").

LISTING OF CLAIMS

1. (Currently Amended) A method for implementing smart DSL for LDSL systems, the method comprising:

presenting a number of spectral masks that are available on the LDSL systems; and

selecting from the number of spectral masks an upstream mask and a downstream mask ~~wherein the upstream mask and the downstream mask exhibit complimentary features~~ based on pre-defined optimization criteria such that for a given transmit power, channel capacity is maximized in both upstream and downstream directions while spectral compatibility is maintained between upstream and downstream channels as well as with neighboring services.

2. (Original) The method of claim 1 wherein selecting the upstream mask and the downstream mask is performed during a modem start up period.

3. (Original) The method of claim 1 wherein selecting the upstream mask and the downstream mask is performed manually.

4. (Original) The method of claim 1 wherein selecting the upstream mask and the downstream mask is performed automatically.

5. (Original) The method of claim 1 wherein the number of spectral masks further comprises a number of upstream masks (U1, U2, U3, . . . , Un) and a number of downstream masks (D1, D2, D3, . . . , Dn).

6. (Original) The method of claim 5 wherein one of the number of upstream masks is defined by the following relations, wherein f is a frequency band in kHz and U1 is the value of the mask in dBm/Hz:

for $0<f\leq 4$, then U1=-97.5, with max power in the in 0-4 kHz band of +15 dBm;

for $4<f\leq 25.875$, then $U1=-92.5+23.43 \times \log_2(f/4)$;

for $25.875<f\leq 60.375$, then U1=-29.0;

for $60.375<f\leq 90.5$, then $U1=-34.5-95 \times \log_2(f/60.375)$;

for $90.5<f\leq 1221$, then U1=-90;

for $1221<f\leq 1630$, then U1=-99.5 peak, with max power in the [f,f+1 MHz] window of $(-90-48 \times \log_2(f/1221)+60)$ dBm; and

for $1630<f\leq 11040$, then U1=-99.5 peak, with max power in the [f,f+1 MHz] window of -50 dBm.

7. (Original) The method of claim 5 wherein one of the number of downstream masks is defined by the following relations, wherein f is a frequency band in kHz and D1

is the value of the mask in dBm/Hz:

for $0<f\leq4$, then D1=-97.5, with max power in the in 0-4 kHz band of +15 dBrn;

for $4<f\leq25.875$, then $D1=-92.5+20.79 \times \log_2(f/4)$;

for $25.875<f\leq81$, then D1=-36.5;

for $81<f\leq92.1$, then $D1=-36.5-70 \times \log_2(f/81)$;

for $92.1<f\leq121.4$, then D1=-49.5;

for $121.4<f\leq138$, then $D1=-49.5+70 \times \log_2(f/1- 21.4)$;

for $138<f\leq353.625$, then $D1=-36.5+0.0139 \times (f-138)$;

for $353.625<f\leq569.25$, then D1=-33.5;

for $569.25<f\leq1622.5$, then $D1=-33.5-36 \times \log_2(f/569.25)$;

for $1622.5<f\leq3093$, then D1=-90;

for $3093<f\leq4545$, then D1=-90 peak, with maximum power in the [f,f+1 MHz] window of $(-36.5-36 \times \log_2(f/1104)+60)$dBm; and

for $4545<f\leq11040$, then D1=-90 peak, with maximum power in the [f,f+1 MHz] window of -50 dBm.

8. (Original) The method of claim 5 wherein one of the number of upstream masks is defined by the following relations, wherein f is a frequency band in kHz and U2 is the value of the mask in dBm/Hz:

for $0<f\leq4$, then U2=-97.5, with max power in the in 0-4 kHz band of +15 dBrn;

for $4<f\leq25.875$, then $U2=-92.5-22.5 \times \log_2(f/4)$;

for $25.875<f\leq 86.25$, then U2=-30.9;

for $86.25<f\leq 138.6$, then U2=-34.5-95 x $\log_2(f/86.25)$;

for $138.6<f\leq 1221$, then U2=-99.5;

for $1221<f\leq 1630$, then U2=-99.5 peak, with max power in the [f,f+1 MHz] window of (-90-48 x $\log_2(f/1221)$+60) dBm; and

for $1630<f\leq 11040$, then U2=-99.5 peak, with max power in the]f,f+1 MHz] window of -50 dBm.

9. (Original) The method of claim 5 wherein one of the number of downstream masks is defined by the following peak values, wherein f is a frequency in kHz and D2 is the peak value of the mask in dBm/Hz:

for f=0.0, then D2=-98.0;

for f=3.99, then D2=-98.00;

for f=4.0, then D2=-92.5;

for f=80.0, then D2=-72.5;

for f=120.74, then D2=-47.50;

for f=120.75, then D2=-37.80;

for f=138.0, then D2=-36.8;

for f=276.0, then D2=-33.5;

for f=677.0625, then D2=-33.5;

for f=956.0, then D2=-62.0;

for f=1800.0, then D2=-62.0;

for f=2290.0, then D2=-90.0;

for f=3093.0, then D2=-90.0;

for f=4545.0, then D2=-110.0; and

for f=12000.0, then D2=-110.0.

10. (Original) The method of claim 5 wherein one of the number of upstream masks is defined by the following peak values, wherein f is a frequency in kHz and U3 is the peak value of the mask in dBm/Hz:

for f=0, then U3=-101.5;

for f=4, then U3=-101.5;

for f=4, then U3=-96;

for f=25.875, then U3=-36.30;

for f=103.5, then U3=-36.30;

for f=164.1, then U3=-99.5;

for f=1221, then U3=-99.5;

for f=1630, then U3=-113.5; and

for f=12000, then U3=-113.5.

11. (Original) The method of claim 5 wherein one of the number of downstream masks is defined by the following peak values, wherein f is a frequency in kHz and D3 is the peak value of the mask in dBm/Hz:

for f=0, then D3=-101.5;

for f=4, then D3=-101.5;

for f=4, then D3=-96;

for f=80, then D3=-76;

for f=138, then D3=-47.5;

for f=138, then D3=-40;

for f=276, then D3=-37;

for f=552, then D3=-37;

for f=956, then D3=-65.5;

for f=1800, then D3=-65.5;

for f=2290, then D3=-93.5;

for f=3093, then D3=-93.5; for f=4545, then D3=-113.5; and

for f=12000, then D3=-113.5.